What is claimed is:

1. A composition for forming a coating film, which comprises a reaction product of a tantalum alkoxide and at least one compound selected from the group consisting of carbamic acid, carboxylic acid and carboxylic anhydride and a solvent and which is used to form a tantalum oxide film.

2. The composition for forming a coating film of claim 1, wherein the tantalum alkoxide is represented by the following formula (1):

$$Ta(OR^1)_5 \quad \cdots(1)$$

wherein R^1 is an alkyl group having 1 to 6 carbon atoms, with the proviso that five R^1's may be the same or different.

3. The composition for forming a coating film of claim 1, wherein the carboxylic acid is represented by the following formula (2):

$$R^2\text{-}\overset{\overset{O}{\|}}{C}\text{-}OH \quad \cdots(2)$$

wherein R^2 is an alkyl group having 1 to 6 carbon atoms or haloalkyl group having 1 to 6 carbon atoms,
or the following formula (3):

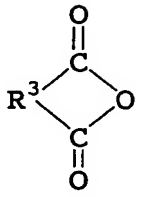
$$HOOC\text{-}R^3\text{-}COOH \quad \cdots(3)$$

wherein R^3 is a single bond, methylene group, halomethylene group, alkylene group having 2 to 6 carbon atoms, haloalkylene group having 2 to 6 carbon atoms, alkenylene group having 2 to 6 carbon atoms or haloalkenylene group having 2 to 6 carbon atoms.

4. The composition for forming a coating film of claim 1, wherein the carboxylic anhydride is represented by the following formula (4):

$$(R^2\text{-}\overset{\overset{O}{\|}}{C}\text{-})_2O \quad \cdots(4)$$

wherein R^2 is as defined in the above formula (2),
or the following formula (5):



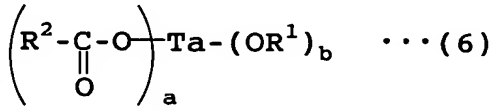
$\cdots(5)$

wherein R^3 is as defined in the above formula (3).

5. The composition for forming a coating film of claim 3, wherein the carboxylic acid is maleic acid or citraconic acid.

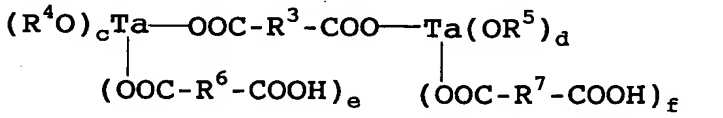
6. The composition for forming a coating film of claim 4, wherein the carboxylic anhydride is maleic anhydride or citraconic anhydride.

7. The composition for forming a coating film of claim 1, wherein the reaction product is at least one selected from the group consisting of a compound represented by the following formula (6):



$\cdots(6)$

wherein R^1 is as defined in the above formula (1), R^2 is as defined in the above formula (2) or amino group, "a" is an integer of 1 to 5, and "b" is an integer of 0 to 4, with the proviso that a + b = 5,
and a compound represented by the following formula (7):



$\cdots(7)$

wherein R^3, R^6 and R^7 are each independently a single bond, methylene group, halomethylene group, alkylene group having 2 to 6 carbon atoms, haloalkylene group having 2 to 6 carbon atoms, alkenylene group having 2 to 6 carbon atoms or

haloalkenylene group having 2 to 6 carbon atoms, R^4 and R^5 are each independently an alkyl group having 1 to 6 carbon atoms, "c" and "e" are each an integer of 0 to 4, with the proviso that c + e = 4, and "d" and "f" are each an integer of 0 to 4, with the proviso that d + f = 4.

8. A method of preparing the composition for forming a coating film of claim 1, comprising the steps of:
(1) reacting a tantalum alkoxide with at least one compound selected from the group consisting of carbamic acid, carboxylic acid and carboxylic anhydride in the presence of a solvent as required; and
(2) adding a solvent to the obtained reaction product as required so as to prepare a composition for forming a coating film, containing the solvent.

9. A method of forming a tantalum oxide film, comprising the steps of:
(1) forming a coating film of the composition for forming a coating film of claim 1 on a substrate; and
(2) thermally and/or optically treating the coating film.

10. A tantalum oxide film formed from the composition for forming a coating film of claim 1.

11. A tantalum oxide film formed by the method of claim 9.